

AMENDMENTS TO THE CLAIMS:

Amend the claims as follows:

1. (Currently amended) A remote control system for a vehicle (1), comprising:

a primary heading sensor ~~fixedly~~ attached to the vehicle, ~~said primary heading sensor being adapted to detect a reference heading~~; and

a remote control unit comprising a steering input manipulator and a secondary heading sensor, said remote control unit being one of (1) portable by a user and (2) rotationally attached to the vehicle relative to a main axis of the vehicle, said remote control unit outputting the ~~remote control unit being adapted to communicate steering input data to [-] a steering computer that is~~ programmed to process the steering input data into steering commands and to communicate the steering commands to a steering mechanism of the ~~vehicle; vehicle, wherein~~ said remote control unit ~~comprises a secondary heading sensor~~ outputs heading information to the steering computer for synchronization ~~which is synchronized with said primary heading sensor with respect to said reference heading, and said steering input data includes information of an active position of said steering input manipulator relative to the reference heading (N), and~~ whereby said computer said active position of the steering input manipulator uses the information for determining ~~the~~ a desired direction of travel of the vehicle regardless of the orientation of the remote control unit relative to the main axis of the vehicle.

2. (Original) The remote control system as recited in claim 1, wherein said primary and secondary heading sensors each comprises a compass and said reference heading is correlated with magnetic north.

3. (Original) The remote control system as recited in claim 2, wherein said secondary heading sensor comprises a flux gate compass.

4. (Original) The remote control system as recited in claim 1, wherein said steering input manipulator comprises a joystick.

5. (Currently amended) The remote control system as recited in claim 4, wherein said steering input data includes a projected angle between the reference heading and ~~the~~ an inclination direction of the joystick..

6. (Original) The remote control system as recited in claim 5, wherein said steering input data further includes a desired relative thrust value defined by the degree of inclination from a vertical reference position of the joystick.

7. (Currently amended) The remote control system as recited in claim 1, wherein information from said secondary heading sensor is continuously compared ~~synchronized~~ with information from the primary heading sensor.

8. (Original) The remote control system as recited in claim 1, wherein said remote control unit is adapted for wireless communication with the steering computer.

9. (Original) The remote control system as recited in claim 1, wherein said vehicle is a water-going craft comprising multiple independently steerable propulsion drives.

10. (Original) The remote control system as recited in claim 9, wherein said steering commands from the steering computer comprises individually computed thrust and steering angle values for each propulsion drive needed to move the craft in the desired direction of travel as indicated by the steering input manipulator.

11. (Original) The remote control system as recited in claim 9, wherein said water-going craft further comprises a bow thruster assembly oriented substantially transversally to the main axis, said bow thruster assembly being directly or indirectly linked to the steering computer.

12. (Original) The remote control system as recited in claim 9, wherein said water-going craft further comprises one or more rudders, said rudders being directly linked to the steering computer (12).

13. (Original) The remote control system as recited in claim 9, wherein said water-going craft further comprises one or more rudders, said rudders being indirectly linked to the steering computer (12).

14. (Original) The remote control system as recited in claim 1, wherein said steering input manipulator includes a substantially spherical tracking-ball.

15. (Original) The remote control system as recited in claim 14, wherein said steering input data includes an angle (P) between the reference heading and the direction of rotation of the tracking-ball.

16. (Original) The remote control system as recited in claim 15, wherein said steering input data further comprises a desired relative thrust value defined by the degree of rotation from a central reference position of the tracking-ball.

17. (Currently amended) A method for remotely controlling a watercraft, said method comprising:

inputting an operator control command indicative of a desired direction of movement of the watercraft into a remote control device; ~~determining an~~

comparing orientation of the remote control device ~~relative~~ to an environmentally based reference system at the time of input of the operator control command;

determining an orientation of the watercraft relative to the environmentally based reference system at the time of input of the operator control command; and

comparing and translating the ~~relative~~ orientation of the remote control device into coincidence with the orientation of the watercraft, and based on said comparison, translation, ~~correctly~~ controlling movement of the watercraft in the operator input desired direction.

18. (Original) The method as recited in claim 17, wherein said environmentally based reference system is a relative correlation to magnetic north.

19. (Original) The method as recited in claim 17, wherein operator manipulation of said remote control device indicates a desired direction of travel and a desired degree of thrust to be imposed on said vehicle in said desired direction.

20. (Original) The method as recited in claim 19, wherein said remote control device has one of an operator manipulable (1) joy-stick input and (2) a roller-ball input.

21. (New) A vehicle remote control system having a main axis (1), comprising:

a primary heading sensor attached to the vehicle that generates a primary reference heading;

a remote control steering manipulator comprising a secondary heading sensor and a steering input and that generates a user desired direction of travel heading; and

a steering computer that receives the primary reference heading from the primary heading sensor and the user desired direction of travel heading from the remote control steering manipulator, wherein the computer compares the primary reference heading and the desired direction of travel heading, thereby determining a desired heading regardless of the orientation of the remote control steering manipulator with respect to the vehicle main axis.

22. (New) The remote control system of claim 21, wherein each said heading sensor comprises a compass and the reference heading comprises information with respect to magnetic north.

23. (New) The remote control system of claim 22, wherein the secondary heading sensor comprises a flux gate compass.

24. (New) The remote control system of claim 21, wherein the steering input comprises a joystick.

25. (New) The remote control system of claim 21, further comprising a steering computer that controls a steering mechanism of the vehicle.
26. (New) The remote control system of claim 25, wherein the vehicle is a watercraft and the computer controls the watercraft heading.
27. (New) A method for remote controlling a vehicle heading, comprising:
generating a vehicle primary heading from a heading sensor fixed to the vehicle;
generating a remote control secondary heading from a heading sensor in a remote control;
generating user steering input information from the remote control; and
comparing the secondary heading and user steering input information with the primary heading to control the vehicle heading in response to the user input while correcting for changes between the primary heading and the secondary heading.
28. (New) The method of claim 27, wherein the heading sensor fixed to the vehicle is a sensor that senses the earth's magnetic field.
29. (New) The method of claim 27, wherein the vehicle is a watercraft and the remote control is portable.
30. (New) The method of claim 27, wherein information from the steering input signal and secondary heading are sent via radio signals to a computer that synchronizes the secondary heading with the primary heading.